Public Health
Seattle & King County
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2002 Sexually Transmitted Disease Profile in King County

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Summary

This report describes the sexually transmitted disease burden in King County. Primary emphasis is placed on chlamydia and gonorrhea since they are the most frequently reported STDs in Washington State. The 2002 incidence rates by age and sex for gonorrhea and chlamydia are presented.

The report concludes with a presentation of which providers in your county reported STDs.

Contents

King County STD Disease Trends

Table 1: Washington State Reportable Sexually Transmitted Diseases, King County, 2002

Disease	2001 King County Cases	2002 King County Cases	2002 King County Rate[λ] (per 100,000)	2002 Washington State Rate[λ] (per 100,000)
Chlamydia	4,295	4,471	252	247
Gonorrhea	1,556	1,462	82	48
Early Syphilis	55	60	3.4	1.5
Congenital Syphilis	0	0	-	2.5 (live births)
Late/Late Latent Syphilis	55	36	2.0	1.0
Herpes (initial infection)	672	650	37	32
GI/LGV/Chancroid**	0	0	-	0.0
HIV cases**	685	391		
AIDS cases**	321	276		
TOTAL (excluding HIV/AIDS cases)	**6,633**	**6,679**	**376**	**330**

[λ] *Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003.*

* *Rates cannot be calculated for years with fewer than five cases*

** *See Appendix A for explanation of disease acronyms.*

In 2002, King County experienced a decrease from 2001 in its combined STD morbidity rate. With 6,679 new cases of STDs (excluding HIV/AIDS cases [1]) in 2002, the incidence rate for all STDs was 376 per 100,000 persons. This is 14% greater than the 330 per 100,000 combined STD rate for Washington State. King County reported no cases of congenital syphilis or GI/LGV/ Chancroid in 2002.

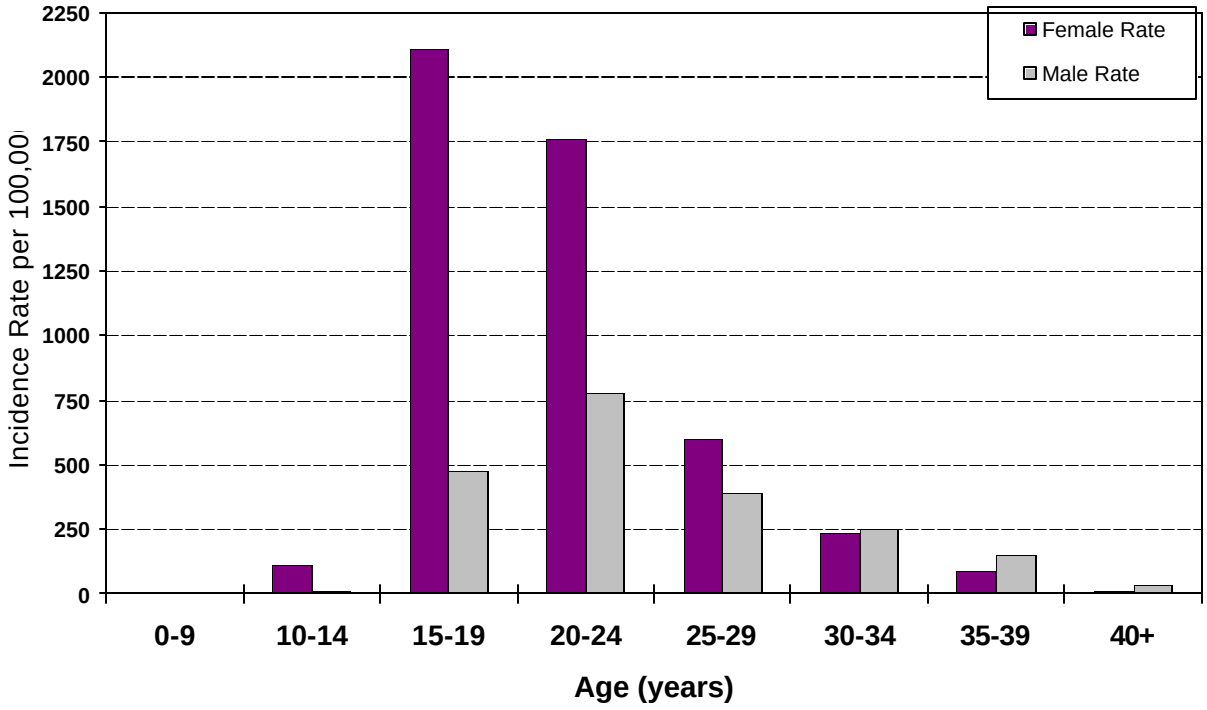
2002 compared to 2001:

- Chlamydia had a 4% increase in reported cases (4,471 vs. 4,295).
- Gonorrhea had a 6% decrease in reported cases (1,462 vs.1,556).
- Early syphilis had a 9% increase in reported cases (60 vs. 55).
- Late/late latent syphilis had a 35% decrease in reported cases (36 vs. 55).
- Initial infection herpes had a 3% decrease in reported cases (650 vs. 672).

[1] Complete information on the HIV/AIDS epidemic in Washington can be found in Washington State HIV/AIDS Surveillance Report, Washington State Department of Health, IDRH, Assessment Unit.

Chlamydia

FIGURE 1: Chlamydia Incidence Rates by Age and Gender, King County, 2002[λ]



Female Rate	*	111	2,113	1,762	596	238	90	12
Male Rate	*	9	474	780	391	247	149	31
Female Cases	1	61	1,143	1,087	396	178	65	49
Male Cases	3	5	267	488	275	200	113	121

[λ] *Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003..*

Incidence rates rounded to the nearest whole number.

** Rates cannot be calculated for ages with fewer than five cases.*

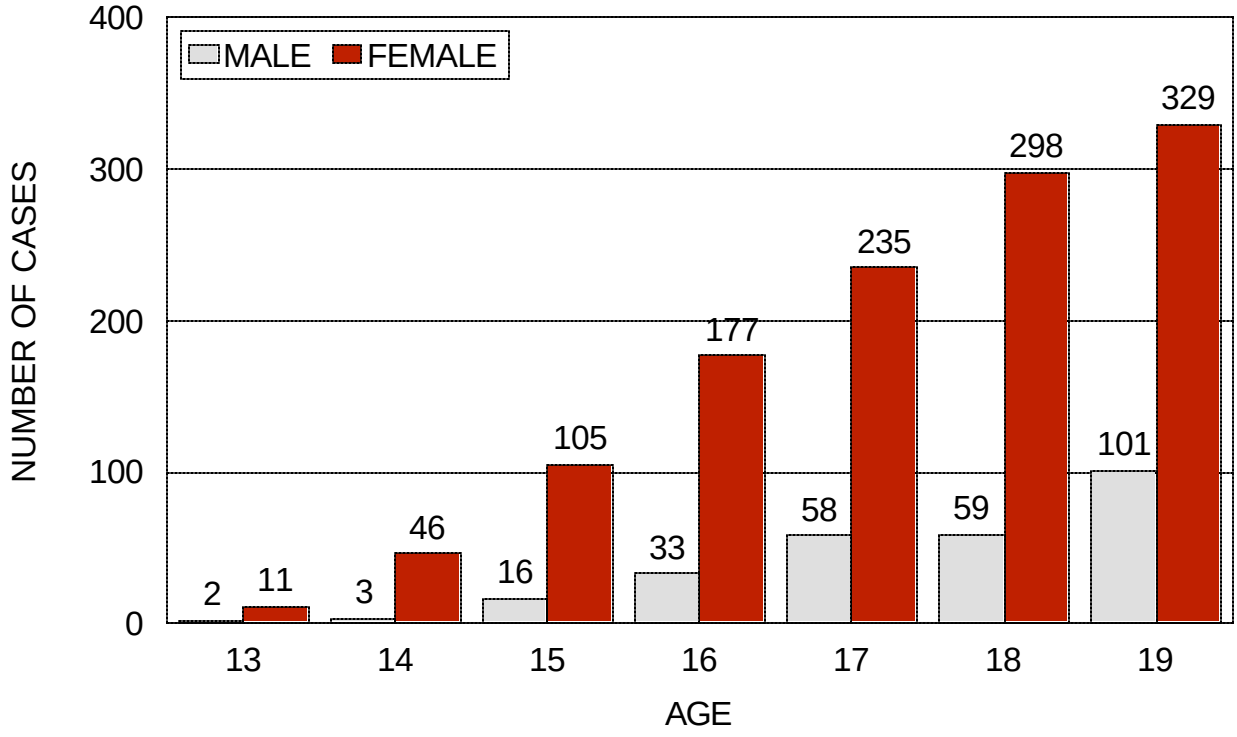
In 2002, the female chlamydia incidence rate peaked among the 15-19 year old age group, at 2,113 cases per 100,000. After this peak, chlamydia incidence among females progressively declined with increasing age. Among men, the 2002 chlamydia incidence rate peaked among 20-24 year olds at 780 cases per 100,000, then declined with increasing age.

Only women are routinely screened for chlamydia. Because active case-finding is preferentially limited to women, the incidence of chlamydia in men may be under-reported by comparison.
Caution should be used in interpreting comparisons of chlamydia rates between genders.

The 2002 STD Treatment Guidelines from CDC recommends that all women diagnosed with chlamydia be re-screened three to four months after treatment. This was suggested because of the high prevalence of chlamydia found in women diagnosed with the disease in the preceding months, presumably as a result of re-infection.

KING COUNTY

TEEN (13-19) CHLAMYDIA CASES - 2002



Repeater Infection (Person having more than one infection in a 12-month period prior to being treated.)

Recurrent infection is common and associated with increased risk of PID and other serious outcomes. Data suggest that young age and incomplete therapy increases the risk for a persistent/recurrent infection. Studies also suggest that women's current male sex partners are not receiving treatment for chlamydia and that women are being re-infected by resuming sex with preexisting (and infected) sex partners. Careful interviewing and prompt, concurrent treatment of all partners is important. People should be coached to ask health care providers for re-screening if risk behavior occurs.

Table 2: **Chlamydia** Repeater Infections, King County, 2002.

	MALE	**FEMALE**	**TOTAL**
Reported Cases	1,473	2,998	4,471
Repeaters Identified	134	415	549
% Repeaters	9%	14%	12%
Age			
0-9			
10-14	1	9	10
15-19	29	227	256
20-24	47	137	184
25-29	27	25	52
30-34	13	11	24
35-39	7	3	10
40+	10	3	13
Unknown			

Asymptomatic Infection

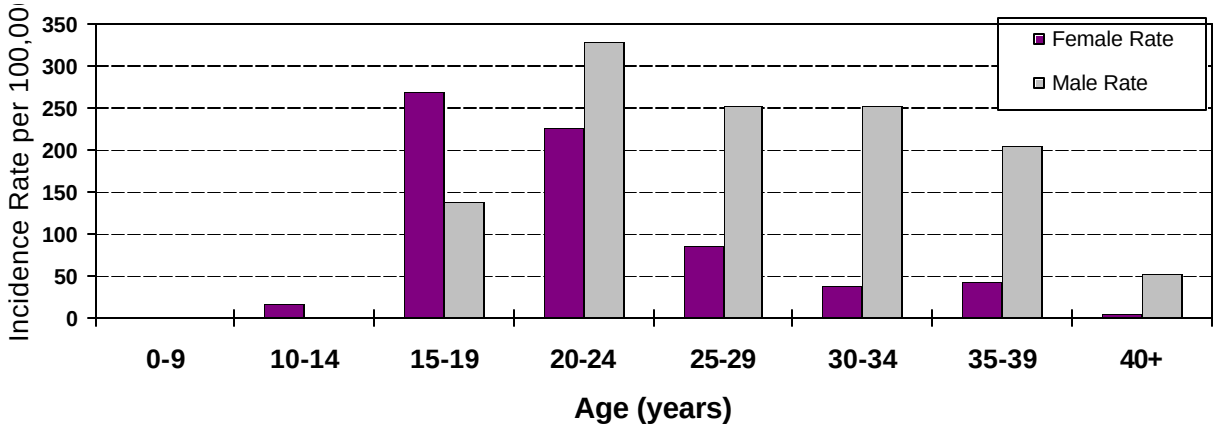
STD infections often lack signs and symptoms. Additionally, signs of severe complications may not appear until long after infection, reducing the likelihood that the patient will associate complications with the initial time of infection. Screening sexually active adolescents (19 years and younger) for chlamydia should be routine during annual examinations even if symptoms are not present. Screening women and men aged 20-24 is also suggested, particularly those who have new or multiple sex partners and who do not consistently use barrier contraceptives. Careful interviewing and treatment of all partners is important.

Table 3: Reported Cases of **Chlamydia** by Diagnostic Category, King County, 2002.

	Private		**Public**		**Total**		**Total**
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	**190**	**1,189**	**692**	**673**	**882**	**1,862**	**2,744**
Symptomatic-Uncomplicated	391	740	168	268	559	1,008	1,567
Pelvic Inflammatory Disease		48		17		65	65
Other	3	1	1		4	1	5
Unknown	17	41	11	21	28	62	90
TOTAL	601	2,019	872	979	1,473	2,998	4,471

Gonorrhea

FIGURE 3: Gonorrhea Incidence Rates by Age and Sex, King County, 2002[λ]



Female Rate	*	16	268	225	87	39	44	6
Male Rate	0	*	138	328	253	252	205	52
Female Cases	1	9	145	139	58	29	32	24
Male Cases	0	1	78	205	178	204	155	200

[λ] *Denominator estimates for the calculation of incidence rates from Washington State Adjusted Population Estimates, OFM, February 2003.*

Incidence rates rounded to the nearest whole number.

** Rates cannot be calculated for years with fewer than five cases.*

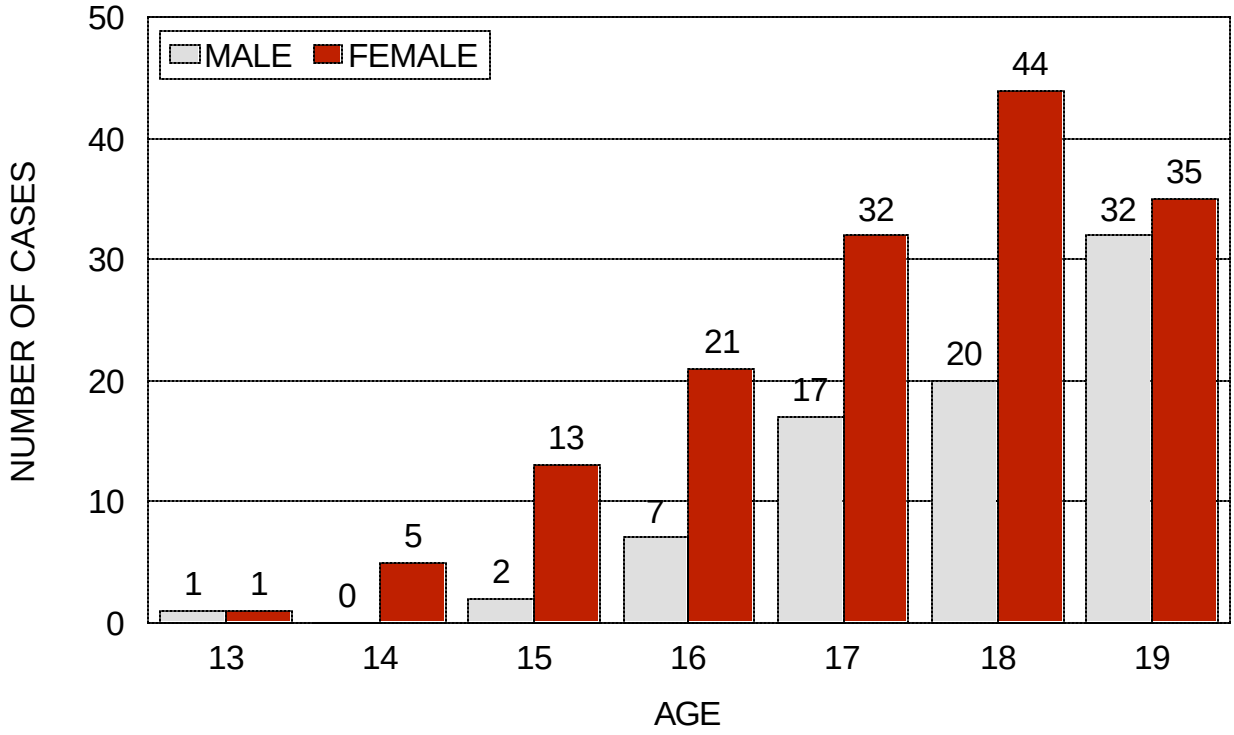
In 2002, the female gonorrhea incidence rate peaked among the 15-19 year old age group at 268 cases per 100,000. After this peak, gonorrhea incidence among females progressively declined with increasing age. Among men, the 2002 gonorrhea incidence rate peaked among 20-24 year olds at 328 cases per 100,000. These cases and rates declined at different rates than the female rates because of an outbreak of gonorrhea in gay men.

The age distribution of gonorrhea differs between genders and age groups. For Washington State, the peak incidence rate for both males and females is in the 20-24 year old age group. The greatest incidence of disease among females, 66% of total morbidity, is among 15-24 year olds, while for males the burden of disease is distributed more evenly among those 25 and older. In 2002, males had a higher gonorrhea incidence rate (57.1/100,000) than females (39.3/100,000). Factors contributing to the distribution of gonorrhea incidence in different age groups among men and women are the presumed age gap between men and women in sexual relationships as well as an outbreak among men-who-have-sex-with-men (MSM) in Western Washington whose median reported age was 30.

Because most gonorrhea cases are symptomatic and seek medical care, reported cases are considered to be an accurate reflection of true disease incidence in the overall population. Providers in Washington State who reported gonorrhea cases in 2002 indicated that 82% of the men were symptomatic for gonorrhea; 51% of the women were symptomatic. Unlike chlamydia, there is no widespread screening program for gonorrhea, however, most clinics provide gonorrhea screening at some level and 99% will perform gonorrhea testing if the client is symptomatic.

KING COUNTY

TEEN (13-19) GONORRHEA CASES - 2002



National gonorrhea incidence rates declined from 1975 through 1997, in 1998 the gonorrhea rate increased 7.8% and has remained essentially unchanged from 1998 to the present. In Washington State, gonorrhea incidence declined through 1998, increased from 1999 through 2001, and decreased 2% in 2002. Gonorrhea numbers are still influenced by the previously noted increases in gonorrhea infections among MSM.

Table 4: **Gonorrhea** Repeater Infections, King County, 2002.

	MALE	FEMALE	TOTAL
Reported Cases	1,024	438	1,462
Repeaters Identified	135	32	167
% Repeaters	13%	7%	11%
Age			
0-9			
10-14			
15-19	7	10	17
20-24	26	13	39
25-29	21	3	24
30-34	30	2	32
35-39	25	1	26
40+	26	3	29
Unknown			

Table 5: Reported Cases of **Gonorrhea** by Diagnostic Category, King County, 2002.

	Private		**Public**		**Total**		**Total**
Diagnosis	Male	Female	Male	Female	Male	Female	Cases
Asymptomatic	**44**	**112**	**116**	**58**	**160**	**170**	**330**
Symptomatic-Uncomplicated	382	152	425	68	807	220	1,027
Pelvic Inflammatory Disease		27		5		32	32
Other				1		1	1
Unknown	4	7	53	8	57	15	72
TOTAL	430	298	594	140	1,024	438	1,462

Conclusion

Table 6: Reported Cases of Chlamydia and Gonorrhea by Provider Type, King County, 2002

	Chlamydia			Gonorrhea		
Provider Type	No. of Providers	No. of Cases	Percent of Total Cases	No. of Providers	No. of Cases	Percent of Total Cases
Alcohol/Substance Abuse						
Blood Bank/Plasma Center						
Community Health Center	11	153	3%	10	53	4%
Emergency Care (excl. hosp.)	20	123	3%	16	67	5%
Family Planning	14	384	9%	8	42	3%
Health Plan/HMOs	24	247	6%	17	61	4%
HIV/AIDS				1	1	0%
Hospitals	29	280	6%	24	144	10%
Indian Health	2	24	0%	2	9	0.5%
Jail/Correction/Detention	10	325	7%	7	72	5%
Job Corps	1	2	0%			
Migrant Health	4	46	1%	2	9	0.5%
Military	3	19	0%	1	1	0%
Neighborhood Health	7	73	2%	7	24	2%
OB/GYN	33	149	3%	13	26	2%
Other	188	848	19%	86	230	16%
Private Physicians	27	50	1%	14	36	2%
Reproductive Health	11	621	14%	11	86	6%
STD Clinics	7	687	15%	3	543	37%
Student Health	16	438	10%	9	57	4%
TOTAL	**407**	**4,469**	**100%**	**231**	**1,461**	**100%**

In King County, the Other providers reported the highest number of chlamydia cases. These providers reported 19% of the total. STD Clinics reported the second highest number of chlamydia cases (15%). Gonorrhea cases (37% of the total) were most frequently reported by STD Clinics.

The Healthy People 2010 national objectives for chlamydia incidence are:

Females aged 15-24 attending family planning clinics: 3%. There are 8 Region X Chlamydia Project* Family Planning clinics in King County. The 2002 positivity rate for females was:

	Male			**Female**		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
International District	8	2	25.0	468	12	2.6
International District-Holly Park	8	1	12.5	220	8	3.6
PP of Western WA-Bellevue	0	0	0.0	1,007	40	4.0
PP of Western WA-Kenmore	0	0	0.0	920	38	4.1
PP of Western WA-Kent Valley	5	0	0.0	646	50	7.7
PP of Western WA-Federal Way	0	0	0.0	776	43	5.5
PP of Western WA-Central	5	1	20.0	1,806	100	5.5
PP of Western WA-University	2	0	0.0	1,239	50	4.0

Females aged 15-24 attending STD clinics: 3%.
Males aged 15-24 attending STD clinics: 3%.
There are 11 Region X Chlamydia Project* STD/Reproductive Health clinics in King County. The 2002 positivity rate was:

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Public Hlth-Seattle & King Co-Auburn	172	14	8.1	1,245	68	5.5
Public Hlth-Seattle & King Co-Downtown	100	14	14.0	759	37	4.9
Public Hlth-Seattle & King Co-Eastgate	102	24	23.5	430	18	4.2
Public Hlth-Seattle & King Co-Federal Way	164	32	19.5	1,666	85	5.1
Public Hlth-Seattle & King Co-North	132	19	14.4	1,056	51	4.8
Public Hlth-Seattle & King Co-North Shore	130	11	8.5	980	28	2.9
Public Hlth-Seattle & King Co-Southeast Renton	111	19	17.1	550	37	6.7
Public Hlth-Seattle & King Co-Southeast Kent	282	67	23.8	2,905	201	6.9
Public Hlth-Seattle & King Co-Southwest	178	20	11.2	1,638	93	5.7
Public Hlth-Seattle & King Co-Columbia Hlth Ctr	80	13	16.3	1,168	86	7.4
Public Hlth-Seattle & King Co-Harborview STD	6,769	490	7.2	3,132	202	6.4

Other Region X Chlamydia Project Sites in King County include:

	Male			Female		
Site	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Echo Glen Detention (Snoqualmie)	306	2	0.7	94	7	7.4
Cleveland HS Teen Clinic	7	1	14.3	152	9	5.9
Franklin Teen Hlth Ctr	23	1	4.3	359	11	3.1
Garfield/Nova Teen Ctr	37	0	0.0	207	17	8.2
Nathan Hale Teen Hlth Ctr	18	0	0.0	183	3	1.6
Rainier Beach Teen Hlth Ctr	28	2	7.1	209	15	7.2
Roosevelt/Marshall Teen Hlth Ctr	15	1	6.7	175	10	5.7
Sealth/Denny Teen Hlth Ctr	11	0	0.0	67	3	4.5
West Seattle/Madison Teen Hlth Ctr	5	2	40.0	97	6	6.2
Seattle University	0	0	0.0	59	0	0.0
Teen Clinic-Kent	0	0	0.0	12	4	33.3
North Bend Family Clinic	2	0	0.0	7	0	0.0
Cedar River Clinic-Renton	0	0	0.0	743	47	6.3

The Healthy People 2010 national objective for gonorrhea incidence is 19 cases per 100,000. King County is working toward met this goal with the 2002 rate of 82 cases per 100,000.

*For Region X Chlamydia Project Screening Criteria see page 12.

Appendix A: Data Sources, Analyses and Limitations

Cases: The number of cases identified and submitted by providers to local health jurisdictions and forwarded to the Washington State Department of Health, Office of Infectious Disease and Reproductive Health, STD/TB Services.

Population: Denominator population estimates for incidence rates are from Washington State Adjusted Population Estimates, Office of Financial Management (OFM), February 2003.

Incidence Rates: Incidence rates are calculated as the number of new episodes of a disease (not persons) in a given year divided by the total population (age and sex appropriate) for that year, expressed as a rate per 100,000. Incidence rates allow comparisons between two or more populations by standardizing the denominator and are the most appropriate statistic to use when investigating differences between groups. Rates should not be calculated for incident case totals fewer than five because the rates are unstable.

Data Reporting: Gonorrhea, chlamydia, syphilis, and herpes (initial infection) are reportable diseases to the local health jurisdictions and forwarded to the Department of Health. To be reported and included in surveillance data, disease definition must be met.

Disease Definitions:

- Gonorrhea - isolation of *Neisseria gonorrhea* from a clinical specimen or observation of gram-negative intracellular diplococci in urethral smears or endocervical smears.
- Chlamydia- isolation of *Chlamydia trachomatis* from a clinical specimen by culture or non-culture methods that detect chlamydia antigen or genetic material.
- Syphilis - a complex sexual transmitted disease with a highly variable clinical course. See CDC guidelines for surveillance definition.
- Herpes Simplex (initial infection only) - diagnostic criteria for reporting can be made through clinical observation of typical lesions and/or laboratory confirmation.
- Chancroid - an STD characterized by painful genital ulceration and inflammatory inguinal adenopathy.
- Granuloma Inguinale (GI) - a slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area.
- Lymphogranuloma Venereum (LGV) - characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis.
- HIV – Human Immunodeficiency Virus is a retrovirus causing HIV disease and AIDS (Acquired Immunodeficiency Syndrome) in humans. This pathogen is transmitted from person to person through unprotected sexual contact, sharing of injection equipment and transfusion/transplantation with infected blood or tissue
- AIDS – Acquired Immunodeficiency Syndrome is the advanced stage of HIV-disease in humans and is characterized by severe suppression of immune response. Persons with

AIDS are at risk for increased susceptibility to opportunistic infections, degradation of major organ systems and eventual death.

The diagnosing practitioner is responsible for providing the case information which includes patient demographics, source of diagnosis, limited clinical information including site of infection and treatment, and date of diagnosis.

Data Strengths: Sexually transmitted disease data may provide more timely information on behavioral trends in the community than diseases with similar modes of transmission particularly HIV/AIDS. There is a high level of participation in the STD surveillance system by private providers of STD services.

Data Limitations: Clinically diagnosed cases of STDs (without laboratory confirmation) may be missed through this surveillance system. Depending upon diagnosing practices, completeness of reporting may vary by source of health care.

Data Biases: Biases could exist in the data due to under-reporting, inability of certain populations to access medical services, error in laboratory reporting, or differential reporting or screening by disease and source of care. However, it is assumed that the number of cases that would fall into these categories is small and normally distributed, thus not significantly impacting the calculated STD rates.

Assumptions: It is assumed that the cases reported from year to year are independent of each other. One violation of this assumption could be if a person who has an STD one year is more likely to have an STD the following year. Also, repeat episodes of the same STD by the same person are not excluded from the numerator count; it is felt that these numbers are not large enough to significantly impact the calculated incidence rates. Finally, we have assumed that all rates follow a chi-square distribution.

Female Selective Screening Criteria in Family Planning and Expansion Sites:

1. Women 24 and should be tested at least annually when undergoing a pelvic examin.
2. All women 25 and older who meet one of the following criteria should be screened:
   a. Cervical findings of mucopurulent cervicitis, friable cervix, ectopy with inflammation or edema,
   b. PID (Pelvic Inflammatory Disease),
   c. Exposed to CT in past 60 days,
   d. Symptomatic sex partner during past 60 days,
   e. Pregnant,
   f.. Seeking an IUD insertion,
   g. Prior chlamydial infection within the past 12 months.